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FRASER BROTH BASE (ISO) CM0895		

## FRASER BROTH BASE (ISO)

CM0895

### Typical Formula\*

Proteose peptone	grams per litre	5.0
Tryptone		5.0
Meat extract		5.0
Yeast extract		5.0
Sodium chloride		20.0
Di-sodium hydrogen phosphate		12.0
Potassium dihydrogen phosphate		1.35
Aesculin		1.0
Lithium chloride		3.0

\* adjusted as required to meet performance standards

### Directions

#### To make Half Fraser Broth

Dissolve 12.9g in 225ml of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Half Fraser Selective Supplement (SR0166E) reconstituted as directed. Mix well and dispense into sterile containers.

Alternatively, dissolve 129.2g in 2.25 litres of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Half Fraser Selective Supplement (SR0166G) reconstituted as directed. Mix well and dispense into sterile containers.

#### To make Fraser Broth

Dissolve 28.7g in 500ml of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Fraser Selective Supplement (SR0156E) reconstituted as directed. Mix well and dispense into sterile containers.

### Physical Characteristics


Straw, free-flowing powder

Colour on reconstitution - straw 2-3

Moisture level - less than or equal to 7%

pH 7.2 ± 0.2 at 25°C

Clarity - clear

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### Microbiological Tests Using Optimum Inoculum Dilution

Control Media: Brilliance™ Listeria Agar (ISO) or Columbia Blood Agar Base enriched with 5% v/v horse blood, where appropriate.

Tested with the addition of Fraser Selective Supplement SR0156

### Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1-10 colony-forming units/ml (cfu/ml) of *Listeria* spp. Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Brilliance™ Listeria Agar (ISO) (CM1212, SR0257 & SR0258) and incubate plates at 37 ± 2°C for 24 - 48 hours.

*Listeria monocytogenes* ATCC®7644  
*Listeria monocytogenes* ATCC®13932

A satisfactory result is represented by recovery of positive strains equal to or greater than a 3 log(10) increase.

Positive strains shall produce aesculin hydrolysis after 48 hours.

### Reactions after incubation at 37 ± 2°C for 48 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 cfu/ml. Incubate broths at 37°C for 48 hours.

*Bacillus cereus* ATCC®10876 No aesculin hydrolysis (no blackening)

Negative strains shall produce no aesculin hydrolysis after 48 hours.


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### Testing performed in accordance with ISO11133:2014

Tested with the addition of Fraser Selective Supplement SR0156. For testing with the addition of Half Fraser Selective Supplement SR0166 refer to Half Fraser Selective Supplement SR0166E or SR0166G product specifications.

### Inoculation with mixed cultures

Inoculate 10ml quantities of medium to achieve 1-10 colony-forming units/ml (cfu/ml) of *Listeria* spp., to each add 1E+02 to 1E+03 cfu/ml of *Escherichia coli* and 1E+02 to 1E+03 cfu/ml of


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*Enterococcus faecalis*. Incubate broths at  $37 \pm 2^{\circ}\text{C}$  for  $24 \pm 2$  hours. Subculture onto Brilliance™ Listeria Agar (ISO) (CM1212, SR0257 & SR0258) and incubate plates at  $37 \pm 2^{\circ}\text{C}$  for  $24 \pm 2$  hours.

#### Reactions after incubation at $37 \pm 2^{\circ}\text{C}$ for $24 \pm 2$ hours

<i>Listeria monocytogenes</i>	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®8739	WDCM00012	No growth
+ <i>Enterococcus faecalis</i>	ATCC®19433	WDCM00009	No growth
<i>Listeria monocytogenes</i>	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®25922	WDCM00013	No growth
+ <i>Enterococcus faecalis</i>	ATCC®19433	WDCM00009	No growth
<i>Listeria monocytogenes</i>	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®8739	WDCM00012	No growth
+ <i>Enterococcus faecalis</i>	ATCC®29212	WDCM00087	No growth
<i>Listeria monocytogenes</i>	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®25922	WDCM00013	No growth
+ <i>Enterococcus faecalis</i>	ATCC®29212	WDCM00087	No growth
<i>Listeria monocytogenes</i>	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®8739	WDCM00012	No growth
+ <i>Enterococcus faecalis</i>	ATCC®19433	WDCM00009	No growth
<i>Listeria monocytogenes</i>	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®25922	WDCM00013	No growth
+ <i>Enterococcus faecalis</i>	ATCC®19433	WDCM00009	No growth
<i>Listeria monocytogenes</i>	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®8739	WDCM00012	No growth
+ <i>Enterococcus faecalis</i>	ATCC®29212	WDCM00087	No growth
<i>Listeria monocytogenes</i>	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ <i>Escherichia coli</i>	ATCC®25922	WDCM00013	No growth
+ <i>Enterococcus faecalis</i>	ATCC®29212	WDCM00087	No growth

A satisfactory result is represented by recovery of  $>10$  cfu of *Listeria monocytogenes* on Brilliance™ Listeria Agar (ISO).

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### Inoculation with pure cultures

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 colony-forming units/ml (cfu/ml) of *Escherichia coli* and *Enterococcus faecalis*. Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Brilliance™ Listeria Agar (ISO) (CM1212, SR0257 & SR0258) and Tryptone Soya Agar (CM0131) then incubate plates at 37 ± 2°C for 24 ± 2 hours.

### Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

<i>Escherichia coli</i>	ATCC® 8739	WDCM00012	No growth (CM1212, SR0257 & SR0258)
<i>Escherichia coli</i>	ATCC® 8739	WDCM00012	No growth or cream colonies (CM0131)
<i>Escherichia coli</i>	ATCC® 25922	WDCM00013	No growth (CM1212, SR0257 & SR0258)
<i>Escherichia coli</i>	ATCC® 25922	WDCM00013	No growth or cream colonies (CM0131)
<i>Enterococcus faecalis</i>	ATCC® 19433	WDCM00009	No growth (CM1212, SR0257 & SR0258)
<i>Enterococcus faecalis</i>	ATCC® 19433	WDCM00009	No growth or straw colonies (CM0131)
<i>Enterococcus faecalis</i>	ATCC® 29212	WDCM00087	No growth (CM1212, SR0257 & SR0258)
<i>Enterococcus faecalis</i>	ATCC® 29212	WDCM00087	No growth or straw colonies (CM0131)

A satisfactory result is represented by no growth of *Escherichia coli* and *Enterococcus faecalis* on Brilliance™ Listeria Agar (ISO) and <100 cfu on Tryptone Soya Agar.

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Revision History

Section / Step	Description of Change	Reason for Change	Reference
Microbiological Characteristics	Change of Listeria plating medium	Change control	MOC-2023-0965